

Date: January 22, 2008

To: Honorable Chairman Bruno A. Barreiro
and Members, Board of County Commissioners

Agenda Item No. 14(A)(3)

From: George M. Burgess
County Manager



R-86-08

Subject: Resolution Authorizing the Waiver of Formal Bid Procedures and Provisions of Administrative Order 3-38 and Authorizing the County Mayor to Execute an Agreement in an Amount not to Exceed \$150,000 Between Miami-Dade County and The West Virginia University Research Corporation for the Preparation of a Report Analyzing the Feasibility of Using Biodiesel in Diesel Buses Operated by Miami-Dade Transit

RECOMMENDATION

It is recommended that the Board of County Commissioners (Board) waive formal bid procedures and the provisions of Administrative Order 3-38 and authorize execution of the attached agreement, in an amount not to exceed \$150,000, between Miami-Dade County and the West Virginia University Research Corporation (WVURC) for a biodiesel analysis of diesel buses operated by Miami-Dade Transit (MDT). WVURC is uniquely qualified with a nationally recognized group of researchers experienced in performing the required testing and in providing both a chassis dynamometer and mobile emissions laboratory capable of accommodating a 40 foot bus on site at MDT's Major Overhaul Facility. The waiver of the provisions of AO 3-38 is in the best interest of Miami-Dade County.

SCOPE

The impact of this analysis benefits the public transit users and is, therefore, Countywide.

FISCAL IMPACT/FUNDING SOURCE

This is a fixed price agreement not to exceed \$150,000.00 for a twelve-month period. This agreement will be funded through the Local Option Gas Tax (LOGT).

DELEGATED AUTHORITY

In accordance with Section 2-8.3 of the Miami-Dade County Code related to identifying delegation of Board authority, there are no authorities beyond that specified in the resolution which include authority for the Mayor or designee to execute and terminate the agreement.

TRACK RECORD/MONITOR

The persons responsible for monitoring this agreement are Fred Shields, Special Projects Administrator II, MDT Field Engineering and Tony Arroyo, MDT Contracts. Miami-Dade Transit's market research, consisting of web searches and inquiries to the industry and other transit agencies, identified only WVURC as the best qualified and most capable entity to perform the required testing on full size transit buses at our facility in Miami-Dade County. WVURC has performed emissions testing for Miami-Dade County in the past to evaluate alternative fuels for use in the Miami-Dade Transit bus fleet. WVURC's past testing performance for Miami-Dade County has been more than satisfactory.

BACKGROUND

Biodiesel is a clean-burning, renewable alternative fuel made from vegetable oil or animal fat. Biodiesel blended in ratios up to 20% with petroleum diesel (B20) are permitted for use in MDT's transit bus engines. The biodiesel available in South Florida is manufactured predominantly from soybean oil and palm oil feed stocks.

Board Resolution No. R-1296-04 (October 19, 2004) along with subsequent Board directives called for feasibility reviews analyzing use of biodiesel in diesel buses operated in Miami-Dade County. The objective of the proposed testing is to determine the impact of B20 fuel blends on MDT's bus fleet fuel consumption, driver perceived vehicle performance, and emissions (with emphasis on greenhouse gases and oxides of nitrogen). The approval of this agreement would establish a twelve-month agreement between Miami-Dade County and the West Virginia University Research Corporation. The WVURC will develop the test plan and procedures, provide the testing equipment including chassis dynamometer and mobile emissions laboratory, conduct the tests, evaluate the test results, and provide a comprehensive report to MDT.

WVURC is a leading research facility in the fields of Internal Combustion Engines, Alternative Fuels, and Emissions. They have completed numerous federally-funded projects in these fields for the Department of Transportation (DOT); Department of Energy (DOE); Environmental Protection Agency (EPA); National Renewable Energy Laboratories (NREL); and the Department of Defense (DoD). They have also conducted a great amount of research for the Society of Automotive Engineering (SAE) International; National Institute for Occupational Safety and Health (NIOSH); California Air Resources Board (CARB); Transportation Research Board (TRB); and the National Academy of Sciences/Transit Cooperative Research Program. Additionally, WVURC has performed testing for the major manufacturers of transit bus engines including Detroit Diesel Corporation, Cummins Inc., and Caterpillar Inc.

Having developed Transportable Heavy-duty Vehicle Emissions Testing Laboratories capable of obtaining reliable emissions data for alternative fuel vehicles, along with the sponsorship of the U.S. Department of Energy Office of Transportation Technologies, WVURC's staff and resources make the institution uniquely qualified for this project. Their laboratories have been in operation and have tested vehicles at locations throughout the United States, including Washington Metropolitan Area Transit Authority and MDT. As such, it is in the best interest of the County to waive formal competitive bid procedures pursuant to Section 5.03(D) and 2-8.1(B) of the Code of Miami-Dade County and authorize this agreement between the WVURC and Miami-Dade County.


Assistant County Manager

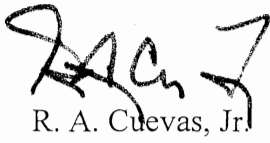


MEMORANDUM

(Revised)

TO: Honorable Chairman Bruno A. Barreiro
and Members, Board of County Commissioners

DATE: January 22, 2008

FROM: 
R. A. Cuevas, Jr.
County Attorney

SUBJECT: Agenda Item No. 14(A)(3)

Please note any items checked.

- ☒ "4-Day Rule" ("3-Day Rule" for committees) applicable if raised
- ☐ 6 weeks required between first reading and public hearing
- ☐ 4 weeks notification to municipal officials required prior to public hearing
- ☐ Decreases revenues or increases expenditures without balancing budget
- ☐ Budget required
- ☐ Statement of fiscal impact required
- ☒ Bid waiver requiring County Manager's written recommendation
- ☐ Ordinance creating a new board requires detailed County Manager's report for public hearing
- ☐ Housekeeping item (no policy decision required)
- ☐ No committee review

Approved _____ Mayor
Veto _____
Override _____

Agenda Item No. 14(A)(3)
01-22-08

RESOLUTION NO. **R-86-08**

RESOLUTION AUTHORIZING THE WAIVER OF FORMAL BID PROCEDURES AND PROVISIONS OF ADMINISTRATIVE ORDER 3-38 AND AUTHORIZING THE COUNTY MAYOR, OR HIS DESIGNEE, TO EXECUTE AN AGREEMENT IN AN AMOUNT NOT TO EXCEED \$150,000.00 BETWEEN MIAMI-DADE COUNTY AND THE WEST VIRGINIA UNIVERSITY RESEARCH CORPORATION (WVURC), FOR THE PREPARATION OF A REPORT ANALYZING THE FEASIBILITY OF USING BIODIESEL IN DEISEL BUSES OPERATED BY MIAMI-DADE TRANSIT

WHEREAS, this Board desires to accomplish the purposes outlined in the accompanying memorandum, a copy of which is incorporated herein by reference,

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF MIAMI-DADE COUNTY, FLORIDA, that this Board hereby authorizes the waiver of formal bid procedures and provisions of Administrative Order 3-38 and further authorizes the County Mayor, or his designee, to execute an agreement between Miami-Dade County and West Virginia University Research Corporation (WVURC), in substantially the form attached hereto and made a part hereof, for the preparation of a report analyzing the feasibility of using biodiesel in diesel buses operated by Miami-Dade Transit; and authorizes the County Mayor or his designee to execute said agreement; and authorizing termination of said agreement .

The foregoing resolution was offered by Commissioner **Audrey M. Edmonson**, who moved its adoption. The motion was seconded by Commissioner **Katy Sorenson** and upon being put to a vote, the vote was as follows:

Bruno A. Barreiro, Chairman	aye		
Barbara J. Jordan, Vice-Chairwoman	absent		
Jose "Pepe" Diaz	absent	Audrey M. Edmonson	aye
Carlos A. Gimenez	aye	Sally A. Heyman	aye
Joe A. Martinez	aye	Dennis C. Moss	aye
Dorrin D. Rolle	aye	Natacha Seijas	aye
Katy Sorenson	aye	Rebeca Sosa	absent
Sen. Javier D. Souto	aye		

The Chairperson thereupon declared the resolution duly passed and adopted this 22nd day of January, 2008. This resolution shall become effective ten (10) days after the date of its adoption unless vetoed by the Mayor, and if vetoed, shall become effective only upon an override by this Board.

MIAMI-DADE COUNTY, FLORIDA
BY ITS BOARD OF COUNTY
COMMISSIONERS



HARVEY RUVIN, CLERK

By. **Kay Sullivan**
Deputy Clerk

Approved by County Attorney
as to form and legal sufficiency. B.L.

Bruce Libhaber

Intergovernmental Agreement Between
Miami-Dade Transit Agency____
and
The West Virginia University Research Corporation

This is an Intergovernmental Agreement, made and entered into the _____ day of _____, 2007, by and between Miami-Dade Transit Agency, a department of Miami-Dade County, political subdivision of the state of Florida, 701 N.W. 1st Court, Miami, Florida 33136, (hereinafter referred as the "the County"), and The West Virginia University Research Corporation, place of business at 886 Chestnut Ridge Road, Morgantown, WV 26506-6845 (hereinafter referenced to as "WVURC").

WITNESSETH:

WHEREAS, Through the adoption of Resolution No. R-1296-04, the Board of County Commissioners directed the preparation of a report analyzing the feasibility and advisability of using biodiesel in diesel buses operated by Miami-Dade County.

WHEREAS, Pursuant to the direction of the Board, Miami-Dade Transit (MDT) is in the process of evaluating the prospective use of B20 biodiesel blends with the potential to reduce the impact of transit bus fleet operations on the environment and climate change without adversely affecting service reliability and efficiency.

WHEREAS, MDT and West Virginia University Research Corporation (WVURC) will conduct tests to determine the impact of B20 fuel blends on our bus fleet fuel consumption, driver perceived vehicle performance, and emissions (with emphasis on greenhouse gases and oxides of nitrogen).

WHEREAS, MDT will provide the test vehicles, fuels, workspace, bus operators, mechanical assistance and technical support for the tests.

WHEREAS, The West Virginia University Research Corporation will develop the test plan and procedures, provide the testing equipment including chassis dynamometer and mobile emissions laboratory, conduct the tests, evaluate the test results, and provide a report to MDT.

NOW, THEREFORE,

IN CONSIDERATION of the mutual terms, conditions, promises, covenants and payments hereinafter set forth, the County and WVURC agree as follows:

ARTICLE 1: PROVISIONS

- 1.0 The objective of the proposed study is to evaluate regulated exhaust emissions, namely carbon monoxide (CO), oxides of nitrogen (NO_x), total hydrocarbons (THC) and total particulate matter (TPM), and carbon dioxide (CO₂) from biodiesel- and diesel-fueled heavy-duty transit buses. Also, WVURC will develop the Miami-Dade Transit (MDT) cycle for chassis dynamometer testing of MDT's transit buses. All distance-specific (g/mile) emissions of regulated pollutants will be evaluated by exercising the vehicles on the MDT cycle on WVURC's chassis dynamometer-based Transportable Heavy-duty Vehicle Emissions Laboratory, and in-use brake-specific (g/bhp-hr) and distance-specific emissions of NO_x and CO₂ will be measured by operating the test vehicles on the road over the buses' typical duty cycle.
- 1.2 Prior to beginning exhaust emissions testing of vehicles, WVURC will develop the MDT cycle. It is understood that MDT will provide WVURC with a vehicle and a driver for this purpose. WVURC will acquire the speed and torque data from the ECU broadcast while the vehicle is being driven through a typical duty cycle. WVURC will analyze the data, and develop a 20-30 minutes long chassis-dynamometer driving cycle (time vs. speed cycle), which will be representative of the actual duty cycle that the vehicles undergo during their revenue service.
- 1.3 WVURC shall receive test buses from for chassis dynamometer testing. The test buses shall be delivered to the test site before 2:00 pm on the day prior to the schedule testing.
- 1.4 Perform transient chassis dynamometer tests (only hot starts) using the Miami-Dade Transit drive cycle to determine THC, NO_x, CO, PM, and CO₂ emissions.

ARTICLE 2: TESTING

- 2.0 WVURC will employ the Mobile Emissions Measurement System, which was used to conduct over 1500 tests on heavy-duty vehicles powered by engines manufactured by the six signatories to the Consent Decrees. The US Government and six Setting Heavy-duty Diesel Engine (S-HDDE) manufacturers entered into Consent Decrees in 1998. WVURC was contracted to manage the in-use emissions measurement component of the manufacturers' responsibility.
- 2.1 Per request from MDT personnel, this study will focus on vehicles powered by DDC Series 50 engines and the Cummins ISM engines.

Tables 1 and 2 provide an outline of the test matrix.

Table 1: Test Matrix for Chassis Dynamometer Tests using the MDT cycle

	Series 50 engines	ISM engines
ULSD	1	1
Soybean oil-based B20 Blend	1	1
Palm oil-based B20 Blend	1	1

Table 2: Test Matrix for In-use (On-road) Emissions Measurements using the MEMS

	Series 50 engines	ISM engines
ULSD	1	1
Soybean oil-based B20 Blend	1	1
Palm oil-based B20 Blend	1	1

- 2.3 All vehicles will be tested with the fuel provided by MDT. It is understood that test vehicles will be conditioned with the test fuel (ultra-low sulfur diesel, or palm-oil based B-20 biodiesel blend, or soybean oil-based B-20 biodiesel blend).

ARTICLE 3: DELIVERABLES

3.0 WVU will provide MDT with a final report of distance specific mass rates (grams/mile) for all regulated emissions measured on the chassis dynamometer. WVU will also provide with in-use distance-specific and brake-specific (g/bhp-hr) mass emissions for NO_x and CO₂ from the on-road tests with the MEMS.

3.1 Time Schedule:

Task No.	Description of Task	Estimated Completion Date
1	MDT Driving Cycle development	45 days after project start date
2	Completion of Vehicle Testing	75 days after project start date
3	Submit Draft Final Report	120 days after project start date
4	Draft Final Report comments received back from MDT	135 days after project start date-
5	Submit Final Report	165 days after project start date

ARTICLE 4: TERMS OF AGREEMENT

The term of this Agreement should not exceed the duration of twelve (12) months. The term of this Agreement will start upon WVURC's receipt of a Notice to Proceed from Miami.

ARTICLE 5: PAYMENT SCHEDULE

5.0 This is a fixed price contract not to exceed \$150,000. This payment breakdown will be:

50% of total amount: 30 days after completion of testing in Miami
25% of total amount: 30 days after submission of draft final report
25% of total amount: 30 days after submission of final report

ARTICLE 6: TEST SITE REQUIREMENTS

6.0 Basic Site Requirements:

1. A concrete or asphalt base
2. 24-hour access for laboratory personnel (7 days/weeks).
3. 24-hour security

6.1 Electrical Requirements

The laboratory requires a minimum of: Either: 2 connections of 208 or 240 V single phase rated at 50 amps each or 1 connection of 480 V 3 phase rated at 50 amps.

The laboratory has 250 feet of power cable

If electrical power is not available, the laboratory is equipped with a 40 kW generator that must be maintained 24 hours/day.

6.2 Test Vehicle Requirements

1. Vehicle information sheet completed, by owner or representative, for each vehicle
2. The test vehicle must be available 24 hours prior to scheduled test.
3. The fuel level must be at least 3/4 tank. For CNG vehicles, tanks should be at a minimum of 2200 psi.
4. Rear tires must meet DOT specifications - it is very difficult to make repairs if a blowout occurs on the test bed.
5. Vehicles should be received by the laboratory in well a maintained condition (new air and oil filters, no exhaust leaks, engine tuned to manufacturer's specifications, etc.)

6.3 Preferences

1. Test Site located inside or under roof - this allows testing in poor weather
2. Compressed air rated at 10 cfm@90 psi) - as a backup to the laboratory's air compressor which is needed for the operation of the emissions analyzers.
3. Use of a forklift (5 ton) - to pack and unpack equipment. Also, to be used as a safe and easy alternative for lifting the front of the test vehicles to a level position.
4. Hub adaptors installed and removed by company responsible for the vehicle. Some shops require this for liability or union regulations.

7.0 WVURC shall be free to publish or present the results of the work outlined in this agreement in any scholarly journal or professional meeting.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed.

ATTEST:

FOR THE COUNTY:

Miami-Dade County,
A political subdivision of the State of Florida

Harvey Ruvin, Clerk

By its Board of County Commissioners

By: _____
Deputy Clerk

By: _____
County Manager

Approved as to Form and Legal Sufficiency

By: _____
Assistant County Attorney

ATTEST:

FOR THE WEST VIRGINIA UNIVERSITY RESEARCH
CORPORATION on behalf of West Virginia University

BY: _____

BY: Alan B. Martin, Secretary

Accepted on Behalf of WVURC

BY: Alan B. Martin